

## MODULAR, PORTABLE, BOTTOMLESS PLANTER

### CROSS REFERENCE TO RELATED APPLICATIONS

This application claims priority from United States provisional application Serial Number 60/456,494 filed March 21, 2003, which is titled "Modular, Portable, Bottomless Planter", and which is hereby incorporated by reference.

### BACKGROUND OF THE INVENTION

Standard decorative planters currently include a bottom partition and attached sides. To use the planters, a user fills the planters with dirt, fertilizer and plants or flowers as is well known in the relevant field. One problem associated with these prior art planters is that, because they maintain the contents of the planter in a small, constrained space, the contents of the planter commonly dry out, which can kill or otherwise harm the plants or flowers.

Another problem associated with prior art planters is that they are typically, large, heavy, and cumbersome to store and move. This makes it especially difficult to use the planters for temporary uses that require the planters to be moved and stored frequently. Such temporary uses include, for example, uses by event planners, exhibitors, and stylists.

A further disadvantage associated with traditional planters is that, because the side and bottom portions of the planters are permanently attached together in a fixed

configuration, the size and shape of the planters can not be changed as needed. As a result, event planners and other individuals who require flexibility in their planter-related displays must keep large numbers of planters on hand to assure the necessary diversity in their displays.

Yet another disadvantage associated with traditional planters is that the planters are not configured to provide a temporary barrier around fixed objects such as trees, mailboxes, and lampposts. Such a temporary barrier would be especially useful in protecting fragile seasonal flower arrangements from the hazards of foot traffic, lawnmowers, bicycles, and canine urination.

Accordingly, there is a need for an improved planter that is lightweight and easy to store, and that is configured to be easily assembled around fixed objects such as trees, mailboxes, and lampposts. Preferably, the improved planter would be configured so that its size and shape could be adjusted as needed for any of multiple uses.

#### BRIEF SUMMARY OF THE INVENTION

The present invention is directed to an improved planter that is lightweight and easy to store, and that is configured to be easily assembled around fixed objects such as trees, mailboxes, and lampposts. In one embodiment of the invention, the improved planter is configured so that its size and shape can be adjusted as needed for any of multiple uses.

More particularly, a planter according to one embodiment of the invention comprises one or more side panels, and a bottom portion that defines an opening that provides a passage between: (1) an interior portion defined by the side panels; and (2) an exterior area that is immediately adjacent the bottom portion of the planter outside the interior of the planter. In a preferred embodiment of the invention, this opening provides a passage between an interior portion defined by the planter's side panels and an exterior area immediately adjacent, and preferably below, the planter. In one embodiment of the invention, the planter includes at least one retractable stake for anchoring the planter to the ground.

A planter kit according to one embodiment of the invention comprises one or more modular panels that are configured to be quickly and easily assembled into a

planter, and that is also configured to be easily disassembled. This planter kit is preferably configured to allow users to use modular panels from the kit to build planters of varying sizes. In addition, the kit is also preferably configured to allow users to form a three-sided planter that may be placed against a substantially vertical surface, such as a wall or fence, to form a four-sided enclosure for plants.

Yet another embodiment of the invention comprises a barrier for use in making pedestrians aware of a tent stake. The barrier preferably includes two or more interconnected panels that are configured to be assembled around the tent stake. These panels preferably form a substantially contiguous barrier around the tent stake. In a preferred embodiment of the invention, the barrier is a bottomless planter that may be used for decoratively displaying plants or other decorative vegetation.

The invention further includes a method of providing decorative planters for temporary use. In one embodiment of the invention, this method comprises the steps of: (1) providing a bottomless planter to a customer for a temporary use; (2) assembling the bottomless planter at a location specified by a customer; (3) placing decorative vegetation within the planter; and (4) after the temporary use is complete, removing the decorative vegetation and disassembling the bottomless planter. The planter may later be reassembled and reused.

A further embodiment of the invention comprises performing the above four steps for different customers on different days using the same planter or parts of the same planter. Thus, in this embodiment of the invention, the planter may be used to provide a temporary decorative or other function to a plurality of different customers at different times. In one embodiment of the invention, at least one of these temporary uses lasts no longer than two days. In a further particular embodiment of the invention, the step of assembling the bottomless planter comprises the step of assembling the bottomless planter so that it surrounds a tent stake.

#### BRIEF DESCRIPTION OF THE DRAWINGS

Having thus described the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

Figure 1 is a top view of a planter according to one embodiment of the invention.

Figure 2A is a perspective view of the planter of Figure 1.

Figure 2B is a perspective view of an alternative embodiment of the planter of Figure 1 that includes additional decorative features. This figure shows the planter assembled around a mailbox and filled with decorative plants.

Figure 2C is a top view of the planter of Figure 1.

Figure 3A is a top view of a hinged, two-panel assembly in a closed “storage configuration”.

Figure 3B is a top view of a planter according to yet another embodiment of the invention.

Figure 3C is a top view of a planter according to a further embodiment of the invention.

Figure 3D is a top view of a planter according to yet another embodiment of the invention.

Figure 4 is a perspective view of the planter of Figure 1.

Figure 5A is a top view of a modular planter in a four-panel, four-post configuration.

Figure 5B is a top view of a modular planter in a four-panel, four-post configuration with two different sized panels.

Figure 5C is a top view of a modular planter in a six-panel, six-post configuration.

Figure 6A is a top view of a modular planter in an eight-panel, eight-post configuration.

Figure 6B is a top view of a modular planter in a four-panel, five-post configuration in which a wall or other substantially vertical surface is used as a fourth side of the planter.

Figure 6C is a top view of a modular planter in a four-panel, four-post configuration in which a wall or other substantially vertical surface is used as a fourth side of the planter. The end posts are each formed by half of a single post.

Figure 7A is a top view of a modular planter that includes two straight panels and two rounded panels.

Figure 7B is a top view of a modular planter that includes six panels and four posts.

Figure 8 is a front view of two panels showing that, in a particular embodiment of the invention, posts may be built into the individual panels so that each panel includes one or two posts.

Figure 9A is a top view of a three-panel planter according to a particular embodiment of the invention in which hook and eye fasteners are used to hold the panels together.

Figure 9B is a top view of a three-panel planter according to one embodiment of the invention in which a wall or other substantially vertical surface is used as a fourth side of the planter.

Figure 10 is a perspective view of a two-panel planter according to another embodiment of the invention in which a wall or other substantially vertical surface is used as a third side of the planter.

Figure 11 is a top perspective view of a four-panel planter according to another embodiment of the invention.

Figure 12 is a perspective view of two panels of the planter of Figure 11. This view shows the fasteners that are used to attach the panels adjacent one another.

#### DETAILED DESCRIPTION OF THE INVENTION

The present invention now will be described more fully hereinafter with reference to the accompanying drawings, in which preferred embodiments of the invention are shown. This invention may, however, be embodied in many different forms and should not be construed as limited to the embodiments set forth herein. Rather, these embodiments are provided so that this disclosure will be thorough and complete, and will fully convey the scope of the invention to those skilled in the art. Like numbers refer to like elements throughout.

#### Overview

As noted above, a planter according to one embodiment of the invention comprises one or more side panels (“panels”), and a bottom portion that defines an opening that provides a passage between: (1) an interior portion defined by the side panels; and (2) an exterior area that is outside of the interior of the planter and

immediately adjacent the bottom portion of the planter. In a particular embodiment of the invention, the planter has no substantial bottom portion (i.e., is bottomless). In one embodiment of the invention, the planter includes supports (which are preferably vertical posts) for connecting at least two of the side panels, and for providing structural support to the planter. The planter also preferably comprises an anchoring system for providing additional stability if needed.

The planter is preferably configured so that it may be set up so that it surrounds the base of a stationary object (such as a mailbox, lantern, or pole) that extends at least partially into the ground. Alternatively, the planter may be set up so that it does not surround a stationary object. After the planter is set up, it is filled with dirt and plants (or other decorative vegetation) like a regular planter. However, because the planter defines an opening in its bottom portion, plants can root directly into the ground through the opening. This minimizes the need for constant watering.

Alternatively, the planter may be filled with potted plants or flowers. This is especially useful when the planter is being used as part of a temporary display (e.g., when the planter is rented out for a particular event by an event planner).

In one embodiment of the invention, the planter is constructed of robust materials, such as solid wood. In this embodiment of the invention, the height of the individual side panels is between about 10 to 12 inches. As a result, the housing is configured to provide a protective barrier that protects the plants from canine urination and other potentially damaging events.

Bottomless planters according to the invention are configured for use by, for example, event planners and exhibitors. The planters are particularly useful in forming temporary displays in trade or flower shows, or vignettes used in wholesale/retail establishments. The planters are preferably configured to stand alone on the ground or other hard surface. The planters may also include an open side, and may adapted to be positioned adjacent a substantially vertical wall so that the open side is closed by the vertical wall.

In one embodiment of the invention, a planter is configured so that it may be positioned to substantially (and preferably entirely) surround one or more tent poles or tent stakes. This serves to prevent people from inadvertently tripping over the tent poles

or stakes. In another embodiment of the invention, the panels of the planter are preferably large enough so that they can be set up to surround one or more tent support barrels or trash cans, and to obstruct pedestrians from running into these support barrels or trash cans.

In a further embodiment of the invention, the planter is configured to support an interior liner (such as a plastic garbage bag) within the interior of the planter. This allows the planter to be used as a decorative garbage can.

In yet another embodiment of the invention, the planter is dimensioned so that it can be set up to at least substantially (and preferably completely) surround the base of an indoor Christmas tree. Preferably, the planter is configured so that, after it is set up, it hides the Christmas tree's tree stand from nearby viewers. In this embodiment of the invention, at least one of the planter's side panels is preferably configured to function as a "door panel", as discussed in detail below, to facilitate access to the base of the tree.

Because, in one embodiment, the bottomless planter can be folded and/or disassembled, event planners, exhibitors and other users may store and transport many more of these planters within a particular space than would be possible using traditional planters with bottoms. This makes it easier to set the planters up at events, flower shows, trade shows or vignettes in wholesale/retail establishments.

Because a planter according to one embodiment of the invention is assembled using individual, modular panels, the individual panels can be assembled in any of a variety of different configurations (e.g., in square, rectangular, or polygonal configurations). By the same token, in one embodiment of the invention, a wall or other vertical surface may be used in place of a panel. Thus, for example, a four sided assembly may be created by forming a three-sided structure with an open end, and then positioning the three-sided structure so that its open end is immediately adjacent a wall. (See, for example, Figure 6B). In another embodiment of the invention, one or more of the planter's individual panels is curved. (See, for example, Figure 7A)

## **Detailed Discussion**

In one embodiment of the invention, the planter comprises four modular, rectangular, substantially planar panels that are configured to be easily assembled to form a generally rectangular (and preferably square), substantially bottomless enclosure.

A planter **100** according to one embodiment of the invention is shown in Figures 1, 2A, 2C and 4. As may be understood from these figures, in this embodiment of the invention, the planter **100** comprises a front panel **140**, two side panels **142, 146**, and a rear panel **144**. These panels **140, 142, 144, 146** are preferably attached together to form a solid, substantially bottomless, box with a substantially open top. In a preferred embodiment of the invention, the planter **100** has no bottom, but in an alternative embodiment of the invention, the planter **100** has a partial bottom that defines an opening through which the roots of plants within the planter **100** may extend into the ground beneath the planter **100**.

In a preferred embodiment of the invention, the planter **100** includes one or more, preferably vertical, supports (e.g., posts) **130** for structurally reinforcing the planter **100**. As shown in Figure 1, these supports **130** are preferably positioned at the intersection of two adjacent panels **140, 142, 144, 146**, but may be located at any suitable position on the planter **100**. In one embodiment of the invention, one or more of the panels **140, 142, 144, 146** includes an integrated support.

In the embodiment of the invention shown in Figures 1, 2A, 2C, and 4, the front panel **140** and the first side panel **146** are permanently attached along their mating side edges via one or more hinges **110**. Similarly, the rear panel **144** and second side panel **142** are also permanently attached along their mating side edges via one or more hinges **110**. This allows the planter **100** to be disassembled into two, hinged two-panel assemblies. As shown in Figure 3A, these two-panel assemblies may be folded about the hinges **110** so that the two panels **142, 144** “close” into a substantially flat, storage configuration.

As may be understood from Figures 1, 2A, 2B, 2C and 4, the two, two-panel assemblies may be positioned around a stationary object (such as a mailbox assembly **170** that includes a mailbox post and a mailbox as shown in Figure 2B) to form a contiguous enclosure. The two-panel assemblies are then preferably attached to one another using

one or more suitable fasteners (e.g., brackets, hook/eye fasteners, Velcro) as known in the art.

Figure 3B depicts an embodiment of the invention having four panels **240**, **242**, **244**, **246** that include support posts **230**. As may be understood from this figure, one side of one of the planter's panels **240** is mounted to the rest of the planter **200** via a hinge **210**, and the opposite side of that panel **240** is not fixedly attached to the rest of the planter **200**. This allows users to swing that particular panel **240** (which may be referred to as a "door panel") inwardly (or, alternatively, outwardly – see Figure 3D) relative to the rest of the planter **200**. This creates a gap **215** for receiving a fixed object into the interior of the planter **200**. This allows users to quickly place the planter **200** around fixed objects by: (1) moving the door panel **240** into an open position in which the door panel **240** at least partially defines a gap **215** for receiving a fixed object into the interior of the planter **200**; (2) moving the planter **200** relative to a substantially fixed object (such as a mailbox post, tree, or tent stake) so that the fixed object passes through the gap **215** and into the interior of the planter **200**; and (3) moving the door panel **240** from the open position to a closed position so that the door panel **240** substantially closes the gap **215**. In a preferred embodiment of the invention, the door panel **240** is then locked in place (e.g., via an eye/hook fastener or other suitable fastener) to assure that the door panel **240** is not inadvertently opened during use.

A further embodiment of the invention includes modular panels that may be assembled together with or without supports to form planters of varying size and shape. These modular panels include fasteners that allow each panel to be connected to an adjacent panel along common side edges of the panels so that the panels form an angle. In a preferred embodiment of the invention, this angle is preferably about either 90 or 180 degrees. However, this angle may be any other suitable angle.

In one embodiment of the invention, a plurality of the modular panels are equipped with one or more fasteners that allow each panel to be connected (e.g., temporarily connected) to any one of a plurality of other panels. For example, in one embodiment of the invention, at least one male fastener is provided adjacent the right side edge of each panel and at least one female fastener is provided adjacent the left side edge of each panel. In this embodiment of the invention, the panels are preferably configured

so that the right side edge of any particular panel may be connected to the left side edge of any one of a plurality of the planter's other panels. In a preferred embodiment of the invention, this plurality includes all of the planter's other panels.

Similarly, the panels are preferably configured so that the left side edge of any particular panel may be connected to the right side edge of any one of a plurality of the planter's other panels. In a preferred embodiment of the invention, this plurality includes all of the planter's other panels. This modular aspect of this embodiment of the invention makes it possible for users to use a single grouping (or "kit") of panels to form many different sizes, configurations, and types of planters.

A planter kit according to one embodiment of the invention includes one or more supports. In this embodiment of the invention, either the posts, the panels, or both the posts and panels are equipped with fasteners that allow any particular two of at least three (and preferably any of) the planter's panels to be attached to any one of at least two (and preferably any of) the planter's supports. This allows a user to assemble planters of varying size and shape using different numbers of panels and posts.

For example, as shown in Figure 5A, a user may use four (preferably substantially identical) panels 440 and four supports 430 to form a small square planter. Similarly, as shown in Figure 5B, a user may use two large panels 550 and two small panels 540 and four supports 530 to form a substantially rectangular planter. Furthermore, as shown in Figure 5C, a user may use six substantially equally sized (and preferably substantially structurally identical) panels 640 and six supports 630 to form a larger rectangular planter.

Figures 6A – 6C depict top views of three different modular planters. The planter 700 shown in 6A comprises eight (preferably substantially structurally identical) modular panels 740 and eight supports 730, and is in the form of a large square. The planters shown in Figures 6B and 6C are each three-sided planters. The planter shown in Figure 6B comprises four (preferably substantially structurally identical) modular panels 840 and five posts 830, and the planter 900 shown in Figure 6C comprises four (preferably substantially structurally identical) panels 940, three full posts 930 and two half-posts 935.

As noted above, the planter's various panels may, for example, be either substantially planar, or curved. For example, a planter according to one embodiment of the invention, which is shown in Figure 7A, comprises two substantially planar panels **1040** and two curved panels **1060**. On the other hand, a planter **1100** according to another embodiment of the invention, which is shown in Figure 7B, comprises six substantially planar panels **1140** and four supports **1130**.

As also noted above, the planter's various supports **1130** may either be separate from, or integrated into, the planter's various panels. For example, a panel **1200** according to one embodiment of the invention in which two supports **1230** are integrated into each panel **1200** is shown in Figure 8.

As may be understood from Figures 9A and 9B, varying the angle between two identically or differently sized panels allows for irregularly shaped bottomless planters. Figure 9A depicts a top view of a three-sided triangular planter **1300**. Figure 9B depicts a top view of a three-sided planter **1400** that comprises two short panels **1440** that are attached adjacent opposite ends of a longer panel **1460** via hinges **1410**. As may be understood from this figure, this planter **1400** may be positioned against a substantially vertical surface **1475**, which serves to obstruct an open end of the planter **1400**.

Figure 10 shows a planter **1500** according to one embodiment of the invention in which the planter **1500** comprises two panels **1540** and three posts **1530**. The panels **1540** are attached together (preferably via a hinge) so that the panels **1540** may be rotated relative to each other to modify the angle formed by the two panels **1540**. As shown in Figure 10, the planter **1500** may be positioned adjacent a vertical, substantially planar surface **1575** so that the vertical surface **1575** serves to obstruct an open end of the planter **1500**.

As noted above, a planter according to various embodiments of the invention may be assembled using any number of panels, or panels and supports, depending on the desired size and shape of the planter. The panels and/or supports are preferably attached together by fasteners such as screws, hinges, brackets, hook/eye fasteners, slide bolts, Velcro, or other fasteners known in the art.

In one embodiment of the invention, an example of which is shown in Figures 1, 2A, 2C, and 4, at least one of the panels **140**, **142**, **144**, **146** includes a stake or other

anchoring device **150**. This anchoring device **150** is mounted to be rotated (e.g., about pivot point **152**) or slid between a first position, in which the anchoring device **150** is immediately adjacent the panel **140, 142, 144, 146**, and a second position in which the anchoring device **150** is projecting downwardly from the bottom edge of the panel **140, 142, 144, 146**. When in the second position, the anchoring device **150** may be pushed into the ground or other surface to hold the panel **140, 142, 144, 146** in place. When the anchoring device **150** is not needed, it may be moved into the first position for convenient and unobtrusive storage. In one embodiment of the invention, the planter **100** includes a plurality of anchoring devices **150** to hold the planter **100** securely in place.

Each panel and/or support may be designed in any desired motif (plain, paneled, missionary, classical, etc.) and made preferably out of any appropriate building material (e.g., wood, composite vinyl, plastic). The height, width, depth, and overall shape of the panels and supports may vary depending on the planter's intended use.

Similarly, the fasteners that are used to attach the various panels together may take many different forms. For example, in one embodiment of the invention, the various fasteners may comprise hinges that are used to fixedly and pivotably attach two or more of the panels adjacent one another. In another embodiment of the invention, such as the embodiment shown in Figures 11 and 12, the various fasteners may comprise one or more two-part fasteners, each of which includes a male fastener portion **1620** and a female fastener portion **1625**.

In the embodiment of the invention shown in Figures 11 and 12, each female fastener portion **1625** includes one or more slots, and each male fastener portion **1620** includes one or more hooked male members. In one embodiment of the invention, at least one of the hooked male members is adapted to be received within a corresponding one of the female portion's slots, and to slideably engage the female fastener portion **1625** after the hooked male member is received within that slot and pushed downwardly relative to the female fastener portion **1625**. This causes the male fastener portion **1620** to releasably hook onto the female fastener portion **1625**.

In one embodiment of the invention shown in Figures 11 and 12, the planter **1600** comprises four panels **1640, 1645**. As may be understood from these figures, two of the panels **1640** (which may be referred to as "male" panels) include two male fastener

portions 1620; one of which extends outwardly from a first side edge of the male panel 1640, and another of which extends outwardly from a second side edge of the male panel 1640. Similarly, two of the panels 1645 (which may be referred to as “female” panels) include two female fastener portions 1625; one of which is positioned adjacent a first side edge of the “female” panel 1645, and another of which is positioned adjacent a second side edge of the “female” panel 1645. In this embodiment of the invention, the planter 1600 is assembled by positioning the male fastener portions 1620 of the two “male” panels 1640 so that they slideably engage the female fastener portions 1625 of the two “female” panels 1645 as described above. The planter 1600 may later be disassembled by hand, and without using tools, by sliding the “male” panels 1640 upwardly relative to the “female” panels 1645 and then pulling the “male” panels 1640 away from the “female” panels 1645.

### **Conclusion**

Many modifications and other embodiments of the invention will come to mind to one skilled in the field to which this invention pertains having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. For example, it should be understood in light of the above disclosure that certain embodiments of the invention involving an entirely bottomless planter may also be configured to include a planter that defines a partial bottom. Therefore, it is to be understood that the invention is not to be limited to the specific embodiments disclosed and that modifications and other embodiments are intended to be included within the scope of the appended claims. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.